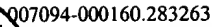


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## Before the Examiner

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## Technology Center 2600

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Pursuant to the Notice of Appeal filed 10 May 2004 in connection with the above-indicated application, an Appeal Brief according to 37 CFR 1.192 is provided in triplicate with a check in the amount of the requisite fee of \$330 for a large entity. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 23-3030, but not to include issue fees.

I hereby certify that this correspondence is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to the Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

Signature of person mailing paper or fee

## **I. REAL PARTY IN INTEREST**

Per 37 CFR §1.192(c)(1), Dow AgroSciences LLC is the owner of the present application by written assignment recorded at reel/frame numbers 011922/0541 and 011926/0687.

## **II. RELATED APPEALS AND INTERFERENCES**

Per 37 CFR §1.192(c)(2), the applicants, the applicants' legal representative, and the assignee are unaware of any related appeals or interferences which will affect, be directly affected by, or have a bearing on the Appeal Board's decision in the present appeal.

## **III. STATUS OF CLAIMS**

Per 37 CFR §1.192(c)(3), claims 1-81 are pending in the subject patent application. Pending claims 1-20, 22-35, 43-47, 49-53, 55-63 and 66-81 stand rejected and are being appealed on the grounds further explained hereinafter. Claims 36-42 have been allowed, and dependent claims 21, 48, 54, and 64-65 have been found to include allowable subject matter -- being only subject to an objection as to form. Accordingly, appeal is not taken for the allowed or allowable claims 21, 36-42, 48, 54, and 64-65. Claims 1-81 are presented in Appendix A per 37 CFR §1.192(c)(9).

## **IV. STATUS OF AMENDMENTS**

Per 37 CFR §1.192(c)(4), no amendment or other response has been filed subsequent to the final rejection of the present application. To date, no advisory action or other correspondence has been received from the U.S. Patent Office subsequent to the Final Office Action.

## V. SUMMARY OF INVENTION

Per 37 CFR §1.192(c)(5), the following summarizes each of the independent claims on appeal (claims 1, 8, 16, 23, 29, 43, 50, 56, and 75). In this summarization, all figure designations refer to the present application, all reference numerals refer to the indicated application figure(s), and all page and line numbers refer to the corresponding text of the present application.

Independent claim 1 sets forth a method that reads on several embodiments including process 220 of Fig. 6. In following example, the language of claim 1 is described in terms of process 220 by appropriate parenthetical references: installing a pest control device (110) (stage 222 of process 220 as described on p. 10, lines 4-6) including a communication circuit (160) (p. 7, line 6 - p. 8, line 13); and locating the pest control device (110) after installation by receiving a wireless transmission from the pest control device (110) (stage 226 of process 220 as described on p. 10, line 21 - p. 11, line 15).

Independent claim 8 sets forth a method that reads on multiple embodiments as well. In following example, the language of claim 8 is described in terms of process 220 of Fig. 6 by appropriate parenthetical references: installing a plurality of pest control devices (110) (stage 222 of process 220 as described on p. 10, lines 4-6) each including a wireless communication circuit (160) (p. 7, line 6 - p. 8, line 13); positioning a hand held interrogator (30) to receive information from a first one of the pest control devices (110) by wireless transmission (stage 226 of process 220 as described on p. 10, line 21 - p. 11, line 15); and changing position of the hand held interrogator (30) to receive information from a second one of the pest control devices (110) by wireless transmission (p. 10, line 33 - p. 11, line 10). The second one of the pest control devices (110) is spaced apart from the first one of the pest control devices (110) (stage 222 of process 220 as described on p. 10, lines 4-6).

Independent claim 16 is directed to a pest control device that reads on multiple embodiments, including the pest control device 110 described in Figs. 1-5. In the following example based on Figs. 1-5, claim 16 is described relative to pest control device 110 by appropriate parenthetical references: a pest control device (110), comprising at least one bait member (132) operable to be consumed or displaced by one or more species of pest (p. 4, line 27 - p. 5, line 4) and a passive RF communication circuit (160) responsive to a wireless stimulation signal to transmit information about the pest control device (110) (p. 7, lines 24-30).

Independent claim 23 sets forth a combination that reads on multiple embodiments. For example, claim 23 is described in relation to pest control device 110 of Figs. 1-5 by appropriate parenthetical references as follows: at least two pest control devices (110) each arranged to be spaced apart from one another in an area to be protected from one or more pests (p. 4, lines 10-14). The pest control devices (110) each include a passive RF communication circuit (160) responsive to a stimulation signal (p. 7, lines 24-30).

Independent claim 29 is directed to a system that reads on multiple embodiments. For example, claim 29 is described in relation to system 20 of Figs. 1-5 by appropriate parenthetical references as follows: a system (20) comprising a plurality of pest control devices (110) (p. 4, lines 10-14). Two or more of the pest control devices (110) each include a wireless communication circuit (160) (p. 7, lines 24-30). The devices 110 are arranged for independent installation to protect a selected area from one or more species of pest (p. 4, lines 10-14). A hand held interrogator (30) is operable to establish wireless communication with each of the two or more pest control devices (110) individually. Communication between the interrogator (30) and a respective one of the two or more pest control devices (110) is selectable in accordance with position of the interrogator (30) relative to the two or more pest control devices (110) (p. 9, line

17 - p. 11, line 15). A data collection unit (40) is operable to receive information from the interrogator (30) about one or more of the pest control devices (110) (p. 9, line 32 - p. 10, line 2).

Independent claim 43 sets forth a system that reads on multiple embodiments. For example, claim 43 is described in relation to system 20 of Figs. 1-5 by appropriate parenthetical references as follows: a system (20) comprising at least one pest control device (110) including a member (151) to sense at least one species of pest and a communication circuit (160) (p. 4, lines 10-14; p. 4, line 26 - p. 6, line 13). The communication circuit (160) is operable to transmit a device identification code (167) and pest detection information (p. 7, lines 26-30).

Independent claim 50 is directed to a system that reads on multiple embodiments. In one example, claim 50 is described in terms of system 820 of Fig. 14 by appropriate parenthetical references as follows: a system (820) comprising at least one pest control device (810) including a pest sensor (890), a first environmental sensor (894a, 894b, or 894c), and a circuit (880) operable to communicate information corresponding to a first environmental characteristic detected with the first environmental sensor (894a, 894b, or 894c) and pest detection status determined with the pest sensor (890) (p. 20, lines 3-18).

Independent claim 56 is directed to a method that reads on multiple embodiments, including process 220 of Fig. 6. In following example, the language of claim 56 is described in terms of process 220 by appropriate parenthetical references: installing a plurality of pest control devices (110) (stage 222 of process 220 as described on p. 10, lines 4-6) each including a bait (132) for one or more species of pest (p. 4, lines 27-29) and a wireless communication circuit (160) (p. 6, lines 12-13); and interrogating the pest control devices (110) with a wireless communication device (30) that receives a plurality of identification signals each corresponding

to a different one of the pest control devices (110) during such interrogation (stage 226 of process 220 as described on p. 10, lines 18-24).

Independent claim 75 sets forth a pest control device that reads on multiple embodiments. For example, claim 75 is described in terms of pest control device 110 of Figs. 1-5 by appropriate parenthetical references as follows: a pest control device (110) comprising at least one bait member (132) operable to be consumed or displaced by one or more species of pest (p. 4, lines 27-39) and an RF transponder (160) responsive to a wireless stimulation signal to transmit information about the pest control device (110) (p. 7, lines 24-30).

It should be appreciated that the above claim summaries are merely nonlimiting examples--it being understood that all other embodiments upon which the claims read are also intended to be covered, but have been omitted for the sake of conciseness required by 37 CFR §1.192(c)(5). Summaries of rejected dependent claims have also been omitted for the sake of brevity and conciseness.

## **VI. ISSUES**

Pursuant to 37 CFR § 1.192(c)(6), the following issues are presented in this appeal:

- A. Whether claims 1 and 7 are novel under 35 USC §102(a) over U.S. Patent No. 5,815,090 to Su (Su).
- B. Whether claim 68 is nonobvious under 35 USC §103(a) over Su.
- C. Whether claims 2-6, 8-16, 23-30, 32-35, 43-45, 47, 49, 56-63, 66-67, 69-76, 78, and 80-81 are nonobvious under 35 USC §103(a) over Su in view of U.S. Patent No. 5,764,138 to Lowe (Lowe) and U.S. Patent No. 3,836,842 to Zimmermann et al. (Zimmermann).

D. Whether claims 16-20 and 22 are nonobvious under 35 USC §103(a) over Su in view of Lowe.

E. Whether claims 31, 46, 77 and 79 are nonobvious under 35 USC §103(a) over Su in view of Lowe, Zimmermann and U.S. Patent No. 5,528,222 to Moskowitz et al. (Moskowitz).

F. Whether claims 50-52 and 55 are nonobvious under 35 USC §103(a) over Su in view of Lowe and U.S. Patent No. 6,178,834 to Allen et al. (Allen).

G. Whether claim 53 is nonobvious under 35 USC §103(a) over Su in view of Lowe, Allen, and Moskowitz.

## **VII. GROUPING OF THE CLAIMS**

Per 37 CFR §1.192(c)(7), the claims do not stand or fall together. Claims 1 and 7 were rejected on common grounds under §102 and do not stand or fall together. Each of at least claims 1 and 7 are believed to be separately patentable. Claims 2-6, 8-16, 23-30, 32-35, 43-45, 47, 49, 56-63, 66-67, 69-76, 78, and 80-81 were rejected on common grounds under §103 and do not stand or fall together. It is believed that at least claims 2-6, 9, 13, 23-30, 32-35, 45, 47, 58-60, 69, 71, 74, and 80 are separately patentable. Claims 16-20 and 22 were rejected on common grounds under §103 and do not stand or fall together. Each of at least claims 17 and 18 are believed to be separately patentable. Claims 31, 46, 77 and 79 were rejected on common grounds under §103 and do not stand or fall together. At least claims 31 and 79 are believed to be separately patentable. Claims 50-52 and 55 were rejected on common grounds under §103 and do not stand or fall together. At least claims 50 and 52 are believed to be separately patentable.

Grounds for rejecting each of claims 53 and 68 were singularly unique, and therefore are not subject to grouping hereunder. Claims 21, 36-42, 48, 54, 64, and 65 are not on appeal, and therefore are not subject to grouping either.

## **VIII. ARGUMENTS**

All rejections are under 35 USC §102 or 35 USC §103, for which the following remarks are offered in accordance with 37 CFR §1.192(c)(8)(iii) or §1.192(c)(8)(iv), respectively.

### **A. Claims 1 and 7 Are Novel Over U.S. Patent No. 5,815,090 to Su (Su).**

#### **1. Independent Claim 1 is Novel over Su.**

It is respectfully asserted that Su does not teach all the limitations of the invention defined in claim 1. "[A]n invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim." Richardson v. Suzuki Motor Co. Ltd., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The claims must not be treated as "mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning." Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company et al., 730 F.2d 1452, 1459, 221 USPQ 481, 486 (Fed. Cir. 1984). As a result, a reference that coincidentally lists features of a claim without describing the claimed arrangement, relationship, and organization of such features cannot anticipate.

The Su reference is primarily directed to a system of sensors wired to a data collection



unit as shown in Figs. 1 and 2-5 and described in accompanying text. Fig. 1 illustrates a wired sensor arrangement in which multiple sensors are connected together by cabling in series to define each of several "zones" that are connected to the data collection unit. Fig. 2 illustrates another wired sensor arrangement in which each sensor is individually wired to the data collection unit -- each defining its own "zone." Figs. 6-8 and accompanying text of Su provide further details specific to certain experimental wired sensor prototypes.

As an alternative to this preferred wired sensor type, the Su reference has a single sentence description of a "wireless" sensor type as follows: "[i]nstead of hard-wire components, such as cables, the system may instead be configured such that the sensors communicate with the data collection unit over independent wireless links formed using wireless communication devices, as shown for example in FIG. 3." (Su, col. 4, lines 20-25). This barest of descriptions and the simple schematic view of Fig. 3 in Su leaves much to the imagination regarding how such an embodiment might be operatively implemented or designed. The Su reference fails to provide a written description of the kind of wireless communication utilized, such as ultrasound, infrared (IR), radio frequency (RF), microwave, etc. Also, there is no disclosure regarding whether a wireless communication device would be included in a housing or some sort of assembly, or, for that matter, whether it is integral with or separate from a sensor as described for the more detailed wired sensor embodiments.

The features of independent method claim 1 include "locating the pest control device after installation by receiving a wireless transmission from the pest control device." It is respectfully submitted that such features are not disclosed, taught, or suggested by the Su reference. There are a number of different embodiments of these features set forth in the present application. In one example described on p. 11, lines 5-15 of the present application, an

interrogator of the present invention may be used to scan or sweep a path along the ground to locate each installed pest control device -- at least some of which may have become hidden by plant growth, become buried underground, or the like.

In rejecting claim 1 on p. 4, lines 12-15 of the Final Office Action, it was asserted that "locating of a pest control device after installation by receiving wireless transmission from such a device is clearly shown in Fig. 7 of Su showing the sensor monitor output voltages, the time of such outputs, and the corresponding zones/locations for the sensors, as indicated in the Office Action." Fig. 7 of Su is a graph of experimental results for a wired sensor prototype involving the application of a 2500 millivolt (mV) line voltage to test circuit continuity (Su, col. 6, line 42 - col. 7, line 13). Fig. 7 of Su and accompanying text refer only to a zone or zones -- not "zones/locations" as stated in the Office Action. Furthermore, according to this description, each zone represents one of five different sensors with respect to the graph of Fig. 7.

As reflected in the Fig. 7 graph, the electrical continuity of each wired prototype sensor was tested during a set interval to determine if pest presence was potentially indicated; however, there is no disclosure as to where a given sensor is actually located. Indeed, sensor position/placement could be changing at any time with no way to determine a given location based on the prototype description. As can best be understood from the rejection, it appears claim 1 equates "locating" to merely determining whether an object is present or detectable. It is respectfully submitted this interpretation is overly broad and unreasonable. Moreover, the situation is even more ambiguous because a lack of continuity is also consistent with the disconnection and removal of a sensor to a different location.

Within the context of present application usage, the proper meaning of "locating" pertains to determining or finding the position, spot, site, or place of an object. This meaning is

confirmed by reference to various definitions found in common dictionaries for transitive and intransitive forms of the verb "to locate." Appendix B includes a few examples of such definitions. In addition, U.S. Patent Number 3,836,842 to Zimmermann et al. (Zimmermann) provides further confirmation of the appropriateness/applicability of this meaning given its manner of using various verb forms of locating therein (see, for example, column 1). The Zimmermann reference was made of record and asserted under a different rejection. This different rejection is improper for other reasons as discussed hereinafter.

Moreover, even assuming *arguendo* that the Fig. 7 graph somehow demonstrates "locating" with respect to the wired sensor prototype, it still fails to disclose the claimed relationship/arrangement of locating a pest control device by receiving a wireless transmission (emphasis added). Furthermore, the rejection explanation intermixes the "wireless links" embodiment of Fig. 3 and the experimental "wired sensor" embodiment described in connection with Fig. 7 in such a manner that it impermissibly treats the claims as "mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning." Lindemann, 730 F.2d at 1459, 221 USPQ at 486. Therefore, it is respectfully submitted that claim 1 is not anticipated.

## **2. Dependent Claim 7 is Novel over Su.**

Besides the reasons supporting novelty of claim 1, further grounds support the novelty of dependent claim 7. In claim 7, the pest control device is provided with a monitoring bait, which is not fairly disclosed in connection the wireless link embodiment. Indeed, Su's meager, one-sentence, wireless link description fails to provide any detail about its manner of operation,

communication/signal format, or the like -- let alone provide any enabling disclosure as to how the wireless link, sensor, and a monitoring bait are operatively utilized together. Also, in rejecting claim 7, the Final Office Action at p. 2, lines 12-13 relies on the wired sensor embodiment of Fig. 4 for support in rejecting claim 7, which again intermixes embodiments in a "catalog of parts" fashion that is improper. Accordingly, further reasons support the novelty of claim 7 in addition to the novelty of base claim 1.

**B. Dependent Claim 68 Is Nonobvious Over Su.**

Dependent claim 68 is not obvious because of the impropriety of modifying Su in the manner asserted. The seminal case directed to application of 35 USC §103 is Graham v. John Deere, 383 U.S. 1, 17-18, 148 USPQ 459 (1966), from which four familiar factual inquiries have resulted. The first three are directed to prior art evaluation, and the last is directed to secondary considerations. *See* Manual of Patent Examining Procedure (MPEP) §2141. From these inquiries, the initial burden is on the Examiner to establish a *prima facie* case of obviousness. "First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." MPEP §2142 (*citing In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Correspondingly, "[a] prior art reference must be considered in its entirety, i.e., as a whole,

including portions that would lead away from the claimed invention." MPEP §2141.02 (*citing, W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983)).

Claim 68 depends from claim 1. The features of claim 68 include installation of the pest control device with a bait including a pesticide (emphasis added). In other words, pesticide is applied with the monitoring communication circuit. The rejection modifies the Su reference explaining that "[w]hile Su uses separate [monitoring] baits and pesticide members, it has been well known in the pest control art to alternatively include a pesticide with the bait so that the pest is destroyed by ingesting the pesticide during [sic] at the same time the bait is being ingested" (First Office Action, p. 3, last ¶). In contrast, a primary goal of the Su invention is directed to monitoring for the presence of termites before any pesticide is applied, as stated, for example, at col. 2, lines 15-27 as follows:

One preferred system is useful in the monitoring phase or step of a two-step process for controlling termites, wherein one step is monitoring and the second step is control. The system of the present invention may conveniently provide for efficient monitoring of a given site for pest and/or other target factors. The resulting reduced or eliminated need for on-site manual inspections may allow for more comprehensive monitoring. Zones having at least one sensor each are checked on demand or pursuant to a specified schedule. If desired, the system may be configured in a manner that allows the location of sensed termite activity to be associated with a particular sensor or group of sensors.

(emphasis added). In col. 3, lines 18-31, Su reiterates this preference -- further emphasizing its importance. Communication between Su's monitoring stations and a data collection unit occurs during the monitoring phase to indicate if termites have been detected.

In the Final Office Action (p. 4, lines 17-18), further explanation is provided stating that Su "does not specifically indicate that such procedure is desired or preferred over the application of a bait having a pesticide either." As emphasized above, a preference is indicated, which is buttressed by the total absence of any teaching or suggestion that Su's device is used to apply a pesticide without

monitoring first. In fact, all indications are to the contrary based on the detailed pesticide application explanation set forth in col. 7, lines 36-48 of Su, which is reproduced as follows:

Upon the detection of the presence of termites in the monitoring device, the monitoring device can be removed from the station housing (or soil) and replaced with a toxicant-containing matrix, in a toxicant delivery device (bait tube). Termites that are captured in the monitoring device can be extracted and gently tapped into an upper chamber of the toxicant delivery device. This upper chamber is the recruiters' chamber. In order to exit, the termites must then move through the toxicant-containing matrix to reach the exit points. No toxicant needs to be used unless termites are detected from the monitoring procedure (or are otherwise known to be present), thereby eliminating the use of any unnecessary toxicant.

(emphasis added). Moreover, this passage punctuates the advantage of eliminating the use of unnecessary toxicant. Indeed, the pest control industry has developed a keen interest in minimizing the unnecessary application of pesticides. Such desires are inconsistent with the claim 68 invention. Perhaps more significant, based on Su's detailed description directed to monitoring before pesticide application, why one would not contemplate using a monitoring circuit at all if pesticide is going to be used from the start? Accordingly, the Su reference actually leads away from the invention defined by claim 68. Thus, in addition to the patentability of the base claim, further reasons support nonobviousness of claim 68.

**C. Claims 2-6, 8-16, 23-30, 32-35, 43-45, 47, 49, 56-63, 66-67, 69-76, 78, and 80-81 Are Nonobvious Over Su in View of U.S. Patent No. 5,764,138 to Lowe (Lowe) and U.S. Patent No. 3,836,842 to Zimmermann et al. (Zimmermann).**

**1. The Combination of Su, Lowe, and Zimmermann is Improper Under §103.**

It is respectfully submitted that claims 2-6, 8-16, 23-30, 32-35, 43-45, 47, 49, 56-63, 66-67, 69-76, 78, and 80-81 are patentable based on multiple grounds. In one example, those skilled in the art

would be discouraged from practicing the asserted Su/Lowe/Zimmerman combination. The suggestion/motivation to combine or modify under §103 needs to be specific. Where a "statement is of a type that gives only general guidance and is not specific as to the particular form of the claimed invention and how to achieve it ... [s]uch a suggestion may make an approach 'obvious to try' but it does not make the invention obvious." Ex parte Obukowicz, 27 USPQ2d 1063, 1065 (U.S. Pat. And Trademark Of. Bd. of Pat. App. & Interferences 1993) (citations omitted). "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d, 1783-84 (Fed. Cir. 1992) (holding that a combination of references does not render a claim obvious due to a lack of suggestion or motivation to combine or modify). As a corollary, the patent office has recognized that "[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP §2143.01. MPEP §2143.01 also states that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious."

A central operating principle of the Su reference is to reduce, if not eliminate, on-site manual inspections through remote monitoring operations (Su, col. 1, lines 11-21; col. 2, lines 15-30). Accordingly, in the Su reference, a data collection unit gathers sensor data from distributed monitoring stations for transmittal to a remote facility. In contrast, the Lowe reference utilizes code reader 20 that does appear to require on-site, manual operation. Also, after a careful review of the Lowe reference, there does not appear to be any disclosure of the ability to store information in code reader 20 for more than one interrogation at a time as opposed to the data collection unit -- let alone remotely

communicate the information as disclosed in the Su reference. Why would one undermine the intended remote monitoring operation of the Su system by modifying it to include a manual, one-device-at-a-time reader from the Lowe reference? It is respectfully submitted that to do so defeats the intended purpose and operating principles of Su. Accordingly, the requisite suggestion/motivation to combine is absent.

In apparent response to such contraindications, the Final Office Action (p. 5, line 21 - p. 6, line 1) contends that the motivation to combine is still present because "manual inspection is still reduced ... in that operators do not need to manually pull out the sensors to visually inspect them." The argument continues "a remote central monitoring system taught by Sue [sic] alone would be expensive and inflexible since a large number of corresponding readers and connections or their modifications are required ..." (p. 6, lines 6-8). In other words, the basic operating principles and goals of the primary reference, Su, are compromised and mutilated to justify the asserted combination -- emphasizing the references individually and collectively are inadequate to the task. The intended purpose and principles of operation of a primary reference should not be modified to rationalize a reference combination from the vantage point of hindsight.

The addition of Zimmerman does not cure the deficiencies of the Su/Lowe combination, and even further indicates the improper nature of the asserted combination. The Zimmerman reference is directed to a portable interrogating instrument with a handle, and relies on manual, on-site operation inapposite to the remote, automated sensing principles of Su. Also, operation of Zimmerman's device is founded on detection of a purely magnetic signal that is highly sensitive to component composition as stated, in part, in col. 4, lines 2-34:

The coil material is essential in providing a high magnetic field capture or concentration function in the marking device. . . . Thus the core material must be highly permeable and exhibit low loss characteristics. . . . Even a minor



fracture in the core material shifts the resonant frequency of a marking device to such a degree as to render its use marginal or even unsatisfactory.

In contrast, the Lowe antennae do not even appear to have a core, and antennae are not mentioned in the single-sentence text of Su. The Zimmermann marking device is further designed to be detectable at relatively significant depths of six feet or more, and involves a rather complicated protocol of directional movements (see cols. 13 and 14 generally) -- which is incongruent with the objectives and goals of Lowe and/or Su. Indeed, the prospects for a successful outcome from the tripartite combination would be speculative at best -- failing to impart a reasonable expectation of success as required to sustain obviousness.

## **2. Additional Reasons Support Patentability of Dependent Claim 32 Over the Asserted Su/Lowe/Zimmermann Combination.**

In the features of dependent claim 32, at least one of the pest control devices includes a bait, and this bait includes a magnetic material. Among the embodiments of the present application that read on such features are pest control device 710 with magnetic material 736 (Fig. 13) and pest control device 810 with magnetic material 836 (Fig. 14), both of which are directed to sensing a magnetic field to gather information about pest activity. In the First Office Action (pp. 7-8, item 15), the rejection of claim 32 was based on the supposition that a bait "by happenstance" can include "magnetic material in it or mixed with it, such as a result of storing the bait on a storage area previously used for storing magnetic material so that magnetic/iron remnants are mixed with the later bait material, would still be accepted by termites as food and therefore can still be used in a system such as taught by [the references]." Given that this rejection appeared to be founded on speculation, a supporting reference was requested in accordance with MPEP §2144.03.

In the Final Office Action (p. 6, line 21 - p. 7, line 15), the speculation continues: "[a]s to Applicant's request for a supporting reference, it is a common practice that when it comes to bait for pest [sic], handling/storage/transportation by people are not as careful or particular in terms of cleanliness as compared to handling food for humans, for example, and as such, people do not usually ensure that the containers or handling areas are clean before storing, handling or transporting pest baits, even when such containers/areas have residues such as magnetic materials by happenstance, which would mix or attach to the bait." It is respectfully submitted that this statement is not a proper reference -- being neither a public document that can be authenticated (such as a patent or other publication) nor an affidavit/declaration of personal knowledge per MPEP §2144.03.

Moreover, it is simply incorrect. In the case of termite applications, significant research is often conducted to determine what materials are attractive to a given termite species, and correspondingly, a high degree of care is often exercised in preparing baits. In the record is U.S. Patent No. 6,404,210, which provides further information along these lines. Accordingly, it is submitted that further reasons support the patentability of claim 32.

**3. Additional Reasons Common to Claims 2, 3, 24-28, and 34 Support Patentability Over the Asserted Su/Lowe/Zimmermann Combination.**

The features of claim 2 include a plurality of pest control devices that each include a passive RF transmitter configured to transmit a unique identifier (emphasis added). In the First Office Action (p. 4, lines 8-10), claim 2 was rejected with the explanation that "a transmitter configured to transmit a unique identifier in response to an interrogation (col. 3, lines 45-64; col. 1, line 5 to col. 2, line 39), wherein unique identifiers for the sensors are inherent in order to distinguish the plurality of sensors

according to Figs. 3 and 7 . . . ." (emphasis added). This contention is contrary to the law regarding inherency. Specifically, for an element to be inherently disclosed, it must "necessarily be present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citing *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991)). Indeed, inherency "may not be established by probabilities or possibilities . . . The mere fact that a certain thing may result from a given set of circumstances is not sufficient." Robertson, 169 F.3d at 745. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (U.S. Pat. and Trademark Off. Bd. of Pat. App. & Interferences 1990) (emphasis in the original). In other words, in order to be inherent, the asserted features must be a necessary consequence of the reference teachings.

There are a number of ways that Su's "wireless links" can operate that do not include the ability to transmit a unique identifier; and thus a unique identifier is not inherent in Su. For example, the data collection device could separately address each monitoring station so that no identifying information needs to be transmitted by the station at all. Alternatively, the monitoring stations need not be configured to respond to an interrogation signal at all. For example, the stations could be arranged to continuously or periodically transmit to the data collection unit without a stimulus. The one-sentence description of Su simply fails to explain one way of the other.

In the Final Office Action (p. 6, lines 14-16), it is now stated: "the feature of the unique identifier transmitted by the RF transmitter was met by Lowe, as stated in the previous Office action." As a careful review of the Lowe reference will reveal, Lowe fails to teach or suggest the use of unique identifiers for each of a group of objects. Instead, it describes an ID code generally, leaving open the

possibility that the transmitted ID code may be the same among a number of like objects. For example, a common ID code could be used for multiple tires of the same model type. Such alternatives belie inherency.

Dependent claim 3 includes the same claim 2 features by virtue of incorporation. The features of dependent claim 24 include at least two pest control devices each including a passive RF communication circuit that is operable to provide a different identification signal for each of the devices. Dependent claims 25-28 include the features of claim 24 by virtue of incorporation. Accordingly, claims 3 and 24-28 are patentable for at least the additional reasons offered in connection with the unique identifiers of claim 2. The features of dependent claim 34 include a different identification signal to uniquely identify each of two or more pest control devices -- indicating common additional grounds in support of patentability, too. Thus, further reasons support nonobviousness of claims 2, 3, 24-28, and 34.

#### **4. Additional Reasons Common to Claims 69, 71, 74, and 80 Support Patentability Over the Asserted Su/Lowe/Zimmermann Combination.**

The features of claims 69, 71, 74, and 80 include a pest control device installed with a bait or bait member including a pesticide, and a communication circuit or transponder. Such features are contrary to Su's preferred operation; and therefore lack the requisite suggestion/motivation to combine for at least the further reasons explained to support nonobviousness of claim 68 over Su in section VIII.B. above.

**5. Additional Reasons Common to Claims 6, 9, 28-30, 32-35, 45, and 58-60 Support Patentability over the Asserted Su/Lowe/Zimmermann Combination.**

The features of dependent claim 6 include transmitting information about the pest control device from the interrogator to a data collection device. Thus, the method of claim 6 not only involves an interrogator, but also a data collection device. The inclusion and/or use of both an interrogator and a data collection device, in addition to a pest control device, is antithetical to the teachings of Su, Lowe, and Zimmerman. All of these references at most only use one data gathering device. As a result, those skilled in the art would be discouraged from including both an interrogator and a data collection device -- especially in view of Su's desire to simply and efficiently automate remote data gathering operations. Comparable features are also included among those recited in claims 9, 28-30, 32-35, 45, and 58-60 either directly or through incorporation by reference in a dependent claim preamble. Hence, it is submitted that independent grounds support the patentability of claims 6, 9, 28-30, 32-35, 45, and 58-60.

**6. Additional Reasons Support Patentability of Claim 47 Over the Asserted Su/Lowe/Zimmermann Combination.**

The features of dependent claim 47 comprise at least one pest control device including a sensor to measure at least one of temperature, humidity, and barometric pressure in addition to a member to sense at least one species of pest as recited in the corresponding independent claim 43. In the Final Office Action (p.7, lines 5-10), it was indicated that the basis for rejecting claim 47 is the same as that asserted against independent claim 43 and dependent claim 33. In rejecting claim 33 in the First Office

Action (p. 8, item 16), it was parenthetically indicated that a humidity sensor is disclosed according to col. 7, lines 26-35 of Su, which passage is reproduced as follows:

Although the sensors described herein for the remote monitoring system are designed to use circuit interruption to detect the presence of termites, other sensors such as moisture meters strategically placed in structural wood to detect potential moisture problem, acoustic emission devices to detect feeding activity of other wood destroying insects such as drywood termites, powderpost beetles, wood borers, or a miniature digital balance for measuring weight loss of cockroach or ant bait stations, may be used in accordance with the present invention.

Notably, in this passage, the moisture meter is placed in structural wood, and the other sensors appear to be external to the bait station as well. Moreover, this description appears to be in terms of alternatives, not additions to the circuit interruption type of sensor. Indeed, there is no teaching or suggestion to include two different sensor types in the same device as defined by claim 47 in the references collectively or individually. Moreover, even if multiple sensors were included, no manner of communicating multiple sensor information is taught or suggested. Accordingly, the invention of claim 47 is further discouraged in view of the reference teachings -- providing further proof of nonobviousness.

**7. Additional Reasons Common to Claims 2-6, 13, and 60 Support Patentability over the Asserted Su/Lowe/Zimmermann Combination.**

The asserted Su/Lowe/Zimmermann combination fails to teach or suggest all the features of dependent claims 2-6, 13, and 60. The features of these claims include locating a pest control device as previously discussed in connection with the §102 rejection of claim 1. To the extent these claims are being rejected based on the same contentions as set forth in the §102 rejection, it is submitted that at least the same reasons make the rejection improper under §103. However, perhaps recognizing such weaknesses, the First Office Action (p. 5, lines 3-5) does appear to turn

to the Lowe reference for such features, stating in relevant part: "wherein since the interrogation range is limited, detection of the transponder inherently locates the transponder to be in the proximity of the interrogator within a range defined by the effective communication range of the interrogator and transponder . . ." (emphasis added). Additionally, the Final Office Action (p. 5, lines 4-6) asserts that "interrogation-response type transponder communication is done via inductor antennas coils 13, 22, 24. Such communication is short-ranged (normally a few to a few tens of feet)."

The fact that there may "normally" be a given range fails to satisfy the inherency standard. Furthermore, it is respectfully submitted that inductor/coil based antennas can be used to communicate much smaller and much greater distances than that indicated, such that there is no communication range that "necessarily flows" from the teachings of Lowe to support inherency. Indeed, the RFID Handbook: Fundamentals and Applications in Contactless Smart Cards and Identification, authored by Klaus Finkenzeller (2003 John Wiley & Sons, Ltd) (hereinafter the "RFID Handbook") describes inductively coupled RFID devices in §3.2.1. A copy of chapter 3 of the RFID Handbook (including §3.2.1) can be downloaded free of charge (as of June 2, 2004) from the web site: [www.rfid-handbook.de](http://www.rfid-handbook.de) as part of a promotional effort. This authority is cited in response to matters raised in the Final Office Action for the first time regarding specific communication ranges.

From table 3.6 of the RFID Handbook, some examples of write/read distances are less than an inch (0.3 cm for instance). Notably, a communication range of 0.3 cm fails to provide a meaningful range for locating a pest control device under the rationale of the Office Actions. At the other extreme, §3.2.1.2 of the RFID Handbook establishes that inductive coupling typically takes place in the near field defined as 0.16 of the applicable electromagnetic wavelength ( $\lambda$ ). Notably, for the specifically-mentioned 125 kHz signal in Lowe, the resulting wavelength is >2400 meters (see also, §3.2.1.1 of the

RFID Handbook). For this wavelength, the near field range for inductive coupling is >384 meters, (the product of 2400 and 0.16). Again, this range (>384 meters = >1250 feet) fails to satisfy the proximity/communication rationale offered to justify that "locating" is inherent.

Even assuming *arguendo* that there is some type of limit on the range of the code reader 20 in the Lowe reference, it does not necessarily follow that Lowe's RF tag 11 will always be "located" giving that term its proper meaning as discussed in connection with the rejection of claim 1. In fact, Lowe's disclosure leaves open the possibility that the operable range facilitates communication without ever isolating, finding, spotting, positioning, or determining the place of RF tag 11. Indeed, one stated goal is to "use the RF identification tag in a remote or inaccessible position to determine the state of the variable . . ." (Lowe, col. 2, lines 41-43). In other words, range-limited communications do not necessarily lead to locating.

Even assuming for the sake of argument that a proper *prima facie* case has been established, there is evidence of secondary factors establishing nonobviousness. "Objective evidence or secondary considerations such as unexpected results, commercial success, long-felt need, failure of others, copying by others, licensing, and skepticism of experts are relevant to the issue of obviousness and must be considered in every case in which they are present." MPEP §2141. Graham, 383 U.S. at 17-18.

Such evidence may be found in the instant application as declared to be accurate by the inventors. For example, the long-felt, yet unmet need to locate pest control devices is indicated on p. 1, lines 25-31 of the present application as originally filed, and the solution to this locating problem is described, for instance, on p. 10, line 30 - p. 11, line 15. Accordingly, even if a *prima facie* case has been established under §103, these secondary factors provide rebuttal – further supporting patentability. In the case of claimed inventions that further include a pesticide and



monitoring circuit/locating features, such secondary considerations are even stronger (see, for example, claims 68, 69, 71, 74, and 80).

**D. Claims 16-20 and 22 Are Nonobvious Over Su in View of Lowe.**

The requisite suggestion or motivation to combine Su and Lowe is absent for at least the same reasons provided with respect to the Su/Lowe/Zimmermann combination.

In addition there are independent, claim-specific grounds further supporting patentability. For example, among the features of dependent claim 17 are both a passive RF communication circuit and an active RF circuit in a pest control device. One nonlimiting embodiment is described with reference to Fig. 9 of the present application. The First Office Action (pp.10-12, item 7) appears to contend that Su's wireless sensor inherently includes a local power source to make it an active wireless circuit, Lowe includes a passive RF transponder; and therefore it would be obvious to include both as an RF interrogator and transponder together because it provides "physical convenience of a wire-free and thus tangle-free coupling between the sensor and the communication circuit, and further not requiring a local power source at the sensor since energy is provided form the interrogator of the communication circuit." First Office Action p. 11, lines 19-22.

The power source for the Su's wireless links is not mentioned -- let alone specified -- and could just as well be by way of a separately run power line, a solar cell, or the like; rendering a local power supply/active circuit not inherent. Also, because both passive and active circuits are in the same pest control device, it does not avoid the need for a power source local to the device. From the Office Actions, it is not clear what role Su's data collection unit plays in proposed scheme. Indeed, a central aspect of the Su reference is remote monitoring. If the data collection unit is present aside from the passive circuit and active circuit combination, then where is the motivation to combine these circuits in

the first place? If the data collection unit is being included in the pest control device, then such inclusion undermines Su's goal of centrally collecting data for a given area through multiple monitoring stations. Indeed, such a combination (a data collection device in every pest monitoring station) would seem to be excessively complex, inflexible, and expensive -- relative to that actually disclosed, and would likely impose significant redesign efforts in order to operate (if at all).

The features of dependent claim 18 include a unique identification signal that corresponds to a discrete multibit code assigned to the pest control device. The Office Actions have contended that such features are inherent. For the same reasons explained in connection with section VIII.C.3. above, a unique identification signal is not inherent in Su and is not taught by Lowe. Moreover, there are other ways a unique identification signal can be transmitted besides as a multibit code -- for example different unique communication frequencies can be assigned to different devices or the like. Accordingly, further reasons independently support nonobviousness of claim 18.

**E. Dependent Claims 31, 46, 77 and 79 Are Nonobvious Over Su in View of Lowe, Zimmerman and U.S. Patent No. 5,528,222 to Moskowitz et al. (Moskowitz).**

The flaws of the Su/Lowe/Zimmermann combination also undermine the propriety of the rejection of claims 31, 46, 77 and 79. Furthermore, to the extent the respective base claims are held patentable, dependent claims 31, 46, 77 and 79 are likewise patentable. Besides these grounds, additional reasons separately support patentability of claims 31, 46, 77 and 79.

Claim 31 depends from claim 30, which depends from base claim 29. Collectively, the features of claim 31 include a plurality of pest control devices each including a wireless communication circuit, a hand-held interrogator, a data collection unit, in which the wireless communication circuit of each

pest control device includes a passive RF transponder and an active RF communication circuit. The First Office Action (p. 13, lines 3-11) rejects claim 31 reasoning that the active tag 200 of Moskowitz can be used as an alternative -- "whereby active transponders can provide longer range transmissions than passive once due to use of local battery so that the transmission power is independent of interrogation signal energy." This explanation fails to recognize that the pest control device of claim 31 includes a wireless communication circuit with both a passive RF transponder and an active RF communication circuit (along with the hand-held interrogator and data collection unit of the base claim). The explanation of both the First Office Action and Final Office Action fail to teach or suggest such features.

It should be noted that the First Office Action (p. 13, line 3) further contends that absent Moskowitz, the combination uses passive transponders. This rationale is inconsistent with the rationale used to assert nonobvious based on the Su/Lowe combination, where it was stated that the wireless link of Su "inherently requires a power source locally, making it an active wireless circuit..." (First Office Action, p. 11, lines 3-4). In fact, neither a passive nor an active circuit is inherent, and the Su reference lacks any explanation of how its wireless links operate. Such inconsistencies further punctuate the impropriety of the rejection. Furthermore, the requisite motivation to include both active and passive circuit types in a pest control device has not been set forth.

The features of dependent claim 79 include an RF transponder that is passive and an active RF communication circuit, which is patentable for at least the same additional reasons explained in connection with claim 31. Accordingly, it is believed that numerous grounds support the patentability of claims 31, 46, 77, and 79.

**F. Claims 50-52 and 55 Are Nonobvious Over Su in View of Lowe and U.S. Patent 6,178,834 to Allen et al. (Allen).**

The flaws of the combination of Su and Lowe also infect the propriety of the rejection of claims 50-52 and 55. Alternatively or additionally, to the extent the respective base claims are held patentable, dependent claims 52 and 55 are likewise patentable.

Besides these grounds, additional reasons separately support patentability of claims 50-52 and 55. The features of independent claim 50 include at least one pest control device including a pest sensor and a first environmental sensor. In rejecting this claim, the First Office Action (p.15, 1st ¶), appears to rely on Su as teaching both sensors; however, as explained in connection with claim 47 in section VIII.C.6. above, the teaching of Su is in terms of alternative sensor types, and furthermore, at least the moisture meter does not appear to be included in the pest monitoring station because it is placed in structural wood.

Claim 52 depends from claim 51, which depends from claim 50. The features of claim 52 further include an interrogator and a data collection unit. Thus, in addition to the grounds supporting nonobviousness of base claim 50, further grounds support the patentability of this combination of features as explained in connection with section VIII.C.5. above. Consequently, it is respectfully submitted that claims 50-52 and 55 are nonobvious based on numerous alternative grounds.

**G. Claim 53 Is Nonobvious Over Su in View of Lowe, Allen, and Moskowitz.**

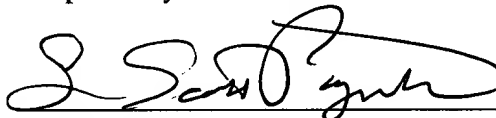
The *prima facie* case under §103 for claim 53 is flawed because the underlying Su/Lowe and Su/Lowe/Allen combinations are flawed as previously explained. Alternatively or

additionally, the same grounds supporting patentability of the respective base claim 50 also support patentability of this dependent claim.

## IX. CONCLUSION

The Su reference does not teach all the limitations of the present invention disclosed in claims 1 or 7. Further, the assertion of the Su/Lowe combination is intrinsically flawed. The modification of the Su/Lowe combination with one or more of the other asserted references (Allen, Zimmerman or Moskowitz) does not cure the underlying deficiencies of the Su/Lowe rejection, and are further flawed based on independent grounds as previously explained. Moreover, additional claim-specific reasons support separate patentability of many of the claims. Therefore, reversal of the rejection is hereby requested.

Respectfully submitted:

A handwritten signature in black ink, appearing to read "L. Scott Paynter", written over a horizontal line.

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**APPENDIX A**  
**Per 37 CFR §1.192(c)(9)**

1. A method, comprising:

installing a pest control device including a communication circuit; and  
locating the pest control device after installation by receiving a wireless transmission from the pest control device.

2. The method of claim 1, wherein the pest control device is one of a plurality of pest control devices placed at least partially in the ground about a building during said installing, the pest control devices each including a passive RF transmitter configured to transmit a unique identifier in response to an interrogation signal from a hand-held interrogator.

3. The method of claim 2, wherein the pest control device is installed at least partially below ground and further comprising servicing the pest control device after said locating.

4. The method of claim 1, wherein said locating includes sending an interrogation signal to the transmitter of the pest control device with an interrogator and receiving an identification signal from the pest control device in response to the interrogation signal.

5. The method of claim 4, wherein the pest control device includes a bait member and further comprising receiving a bait status signal in response to the interrogation signal.

6. The method of claim 5, further comprising transmitting information about the pest control device from the interrogator to a data collection device.

7. The method of claim 1, wherein said pest control device is provided with a monitoring bait during said installing and further comprising detecting at least partial consumption of the monitoring bait and installing a pesticide bait in response to said detecting.

8. A method, comprising:

installing a plurality of pest control devices each including a wireless communication circuit;

positioning a hand held interrogator to receive information from a first one of the pest control devices by wireless transmission; and

changing position of the hand held interrogator to receive information from a second one of the pest control devices by wireless transmission, the second one of the pest control devices being spaced apart from the first one of the pest control devices.

9. The method of claim 8, further comprising transmitting the information from the first one of the pest control devices and the information from the second one of the pest control devices to a data collection unit.

10. The method of claim 8, further comprising repositioning the interrogator to communicate with a third one of the pest control devices.

11. The method of claim 8, wherein the information from the first one of the pest control devices includes a pest control device identifier and a bait status indication.

12. The method of claim 8, wherein the wireless communication circuit of at least one of the pest control devices includes a passive RF transmitter.

13. The method of claim 8, wherein said installing includes placing at least one of the pest control devices at least partially below ground and further comprising locating the pest control devices through wireless communication with the interrogator.

14. The method of claim 8, wherein said installing includes placing the first one of the pest control devices at least partially below ground, the first one of the pest control devices being installed with a monitoring bait member for termites, and further comprising:

detecting at least partial consumption of the monitoring bait member from the information about the first one of the pest control devices obtained with the interrogator; and  
installing a pesticide bait member for termites in response to said detecting.

15. The method of claim 8, wherein the pest control devices each include an edible bait member for one or more species of pest, and further comprising evaluating bait status information obtained from each of the pest control devices with the interrogator to identify which of the pest control devices have attracted the one or more species of pest.



16. A pest control device, comprising: at least one bait member operable to be consumed or displaced by one or more species of pest and a passive RF communication circuit responsive to a wireless stimulation signal to transmit information about said pest control device.

17. The device of claim 16, further comprising an active RF circuit.

18. The device of claim 16, wherein said passive RF circuit is operable to include a unique identification signal in said information, said identification signal corresponding to a discrete, multibit code assigned to the pest control device.

19. The device of claim 16, further comprising an electrically conductive loop coupled to said passive RF communication circuit, said loop being arranged to be altered during consumption or displacement of said bait member to provide a status signal having a first state indicating said loop is electrically closed and a second state indicating said loop is electrically open.

20. The device of claim 16, further comprising a housing containing said bait member and said passive RF communication circuit.

21. The device of claim 16, wherein said bait member includes a magnetic material to provide a magnetic signature corresponding to consumption of said bait member by one or more pests.

22. The device of claim 16, further comprising a sensor for measuring a change in at least one of temperature, humidity, or barometric pressure.

23. A combination, comprising: at least two pest control devices each arranged to be spaced apart from one another in an area to be protected from one or more pests, said pest control devices each including a passive RF communication circuit responsive to a stimulation signal.

24. The combination of claim 23, wherein said passive RF communication circuit is operable to provide a different identification signal for each of said pest control devices.

25. The combination of claim 24, wherein at least one of said pest control devices includes a pest sensor operable to provide a status signal indicative of consumption or displacement of a member by the one or more pests.

26. The combination of claim 25, further comprising an interrogator operable to output said stimulation signal and receive data corresponding to said different identification signal and said status signal in response to said stimulation signal.

27. The combination of claim 26, wherein said interrogator is in a hand-held form operable to locate each of said pest control devices by wireless transmission.

28. The combination of claim 27, further comprising a data collection unit operable to receive said data from said interrogator.

29. A system, comprising:

A plurality of pest control devices, two or more of said pest control devices each including a wireless communication circuit, said devices being arranged for independent installation to protect a selected area from one or more species of pest;

a hand held interrogator operable to establish wireless communication with each of said two or more pest control devices individually, said communication between said interrogator and a respective one of said two or more pest control devices being selectable in accordance with position of said interrogator relative to said two or more pest control devices; and

a data collection unit operable to receive information from said interrogator about one or more of said pest control devices.

30. The system of claim 29, wherein said wireless communication circuit includes a passive RF transponder energized by a stimulation signal from said interrogator.

31. The system of claim 30, wherein said wireless communication circuit includes an active RF communication circuit.

32. The system of claim 29, wherein at least one of said pest control devices includes a bait, said bait including a magnetic material.

33. The system of claim 29, wherein at least one of said pest control devices includes an environmental sensor.

34. The system of claim 29, wherein said wireless communication circuit for each of said two or more pest control devices is operable to transmit a different identification signal to uniquely identify each of said two or more pest control devices in response to a signal from said interrogator.

35. The system of claim 29, wherein said pest control devices each include said wireless communication circuit, a bait member for said one or more species of pest, and an electrically conductive pest detection loop coupled to said wireless communication circuit, said pest detection loop being arranged to be altered by said one or more species of pest to provide a pest detection signal through said wireless communication circuit in response to a signal from said interrogator.

36. A system, comprising: at least one pest control device including a pest sensing member, said member including a magnetic material, said magnetic material providing a magnetic field that changes in response to removal of said magnetic material from said member by one or more pests, said at least one pest control device further including a circuit operable to generate a signal corresponding to said magnetic field.

37. The system of claim 36, wherein said circuit is further configured for wireless communication.

38. The system of claim 37, further comprising a device operable to receive information transmitted by said wireless communication.

39. The system of claim 38, wherein said circuit includes at least one magnetoresistor.

40. The system of claim 36, wherein said pest sensing member is configured as a bait including said magnetic material and said monitoring signal corresponds to a magnetic signature that changes as said bait is consumed.

41. The system of claim 36, wherein said at least one pest control device further includes a sensor to measure at least one of temperature, humidity, and barometric pressure.

42. The system of claim 36, wherein said at least one pest control device is a plurality.

43. A system, comprising: at least one pest control device including a member to sense at least one species of pest and a communication circuit, said communication circuit being operable to transmit a device identification code and pest detection information.

44. The system of claim 43, further comprising an interrogator operable to generate a stimulation signal and wherein said communication circuit includes a passive RF transmission circuit responsive to said stimulation signal to transmit said device identification code and said pest detection information.

45. The system of claim 44, further comprising a data collection unit operable to receive data from said interrogator.

46. The system of claim 43, wherein said communication circuit includes an active RF transmitter/receiver.

47. The system of claim 43, wherein said at least one pest control device further includes a sensor to measure at least one of temperature, humidity, and barometric pressure.

48. The system of claim 43, wherein said member includes a magnetic material to provide a magnetic signature indicative of a degree of removal of said magnetic material from said member.

49. The system of claim 43, wherein said at least one pest control device is a plurality.

50. A system, comprising: at least one pest control device including a pest sensor, a first environmental sensor, and a circuit operable to communicate information corresponding to a first environmental characteristic detected with said first environmental sensor and pest detection status determined with said pest sensor.

51. The system of claim 50, further comprising an interrogator operable to generate a stimulation signal and wherein said circuit further defines a passive RF transmitter responsive to said stimulation signal to transmit said information.

52. The system of claim 51, further comprising a data collection unit operable to receive data from said interrogator.

53. The system of claim 50, wherein said circuit defines an active RF transmitter/receiver.

54. The system of claim 50, wherein said pest sensor includes a member with a magnetic material to provide a magnetic signature indicative of a degree of removal of said magnetic material from said member.

55. The system of claim 50, wherein said at least one pest control device is a plurality.

56. A method, comprising:

installing a plurality of pest control devices each including a bait for one or more species of pest and a wireless communication circuit; and

interrogating the pest control devices with a wireless communication device, the wireless communication device receiving a plurality of identification signals each corresponding to a different one of the pest control devices during said interrogating.

57. The method of claim 56, further comprising receiving pest activity status information from each of the pest control devices with the wireless communication device.

58. The method of claim 57, further comprising transmitting data to a data collection unit from the wireless communication device.

59. The method of claim 56, wherein the wireless communication device is in the form of a hand-held wireless interrogator.

60. The method of claim 59, further comprising locating each of the pest control devices with the interrogator.

61. The method of claim 59, wherein the wireless communication circuit includes a passive RF transponder responsive to a stimulation signal from the wireless communication device, the passive RF transponder sending a respective one of the identification signals and a status signal indicative of pest activity.

62. The method of claim 56, wherein the pest control devices each include a sensor to measure at least one of temperature, humidity, and barometric pressure.

63. The method of claim 62, further comprising sending data to the wireless communication device from the sensor for each of the pest control devices and comparing the data to pest activity in the pest control devices.

64. The method of claim 56, wherein said bait for at least one of said pest control devices includes a magnetic material operable to provide a magnetic signature corresponding to bait consumption.



65. The method of claim 64, further comprising monitoring said magnetic signature to evaluate pest bait consumption behavior.

66. The method of claim 56, wherein the bait of each of the pest control devices is selected to be edible by subterranean termites and said installing includes placing at least a portion of the pest control devices at least partially below ground.

67. The method of claim 56, wherein the bait for each of the pest control devices is of a pest activity monitoring variety, and further comprising:

detecting at least partial consumption of the bait for at least one of the pest control devices from data obtained with the interrogator; and

installing a pesticide bait member in response to said detecting.

68. The method of claim 1, wherein the pest control device is installed with a bait including a pesticide.

69. The method of claim 8, wherein the first one of the pest control devices is installed with a bait member including a pesticide.

70. The method of claim 15, further comprising predicting future behavior of the one or more species of pest from said evaluating.

71. The device of claim 16, wherein said at least one bait member includes a pesticide.

72. The device of claim 16, wherein said at least one bait member includes a monitoring bait.

73. The method of claim 63, further comprising predicting pest behavior based on said comparing.

74. The method of claim 56, wherein the bait includes a pesticide.

75. A pest control device, comprising: at least one bait member operable to be consumed or displaced by one or more species of pest and an RF transponder responsive to a wireless stimulation signal to transmit information about the pest control device.

76. The device of claim 75, wherein said RF transponder is passive.

77. The device of claim 75, wherein said RF transponder includes an active RF circuit.

78. The device of claim 75, further comprising an electrically conductive loop coupled to said RF transponder, said loop being arranged to be altered during consumption or displacement of said bait member to provide a status signal having a first state indicating said loop is electrically closed and a second state indicating said loop is electrically open.

79. The device of claim 75, wherein said RF transponder is passive and further comprising an active RF communication circuit.

80. The device of claim 75, wherein said at least one bait member includes a pesticide.

81. The device of claim 75, wherein said at least one bait member is of a monitoring type consumable or displaceable by at least one variety of termite.

## APPENDIX B

### 1. WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE UNABRIDGED 1327 (PHILIP B. GOVE et al. eds., 1986)

#### Locate :

##### transitive

1. to determine or indicate the place of : define the site or limits of (as by a survey)  
<locating the lines of property>
- 2a. to set or establish in a particular spot or position : STATION <located himself behind the screen> <carefully located the clock in the center of the mantel>
- 2b. to establish in a charge or office
- 3a. to seek out and discover the position of <located the children in the attic> <try to ~ the source of the sound>
- 3b. to find the place of or assign a place to in a sequence <locating the reigns of the pastoral kings>
- 3c. to determine the position of a mathematical object: <~ a decimal point> <~ a point in a plane>
4. *civil law* : to let out by a contract of location

##### intransitive

to take up one's residence : establish oneself or one's business : SETTLE <the company located north of town>  
*of a Methodist minister* : to retire from clerical life or duties

### 2. WEBSTER'S NEW IDEAL DICTIONARY 431 (MERRIAM-WEBSTER, INC., 1989)

#### Locate :

1. STATION : SETTLE
2. to determine the site of
3. to find or fix the place of in a sequence

### 3. WEBSTER'S COLLEGE DICTIONARY 796 (ROBERT B. COSTELLO et al. eds., 1991)

#### Locate :

##### transitive

to identify or discover the place or location of: *to locate a missing book.*  
To establish in a position, situation, or locality; place; settle.  
To assign or ascribe a particular location to (something), as by knowledge or opinion:  
*Some scholars locate the Garden of Eden in Babylonia.*

To survey and enter a claim to a tract of land; take possession of land.

intransitive

to establish one's business or residence in a place; settle.

**4. THE AMERICAN HERITAGE DICTIONARY BASED ON THE NEW SECOND COLLEGE EDITION (HOUGHTON MIFFLIN COMPANY, 1983)**

**Locate :**

1. to determine the position of
2. to find by searching: *locate the source of error*
3. to situate or place
4. to become established; settle